UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/708,569	11/09/2000	Makiko Endo	35.C14920	2291

5514 7590 04/23/2002

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER	
NGUYEN, KIMBERLY T	

ART UNIT	PAPER NUMBER
1774	7

DATE MAILED: 04/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

A S-7

Office Action Summary	Application No.	Applicant(s)	
	09/708,569	ENDO ET AL.	
	Examiner	Art Unit	
	Kimberly T. Nguyen	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-51 is/are pending in the application.

4a) Of the above claim(s) 1-22,37,38 and 40-49 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 23-36,39,50 and 51 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-51 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-19 and 40-49, drawn to an image forming method and a surface treating method, classified in class 347, subclass 101.

II. Claims 20-22, drawn to an ink set, classified in class 106, subclass 31.27.

III. Claims 37-38, drawn to an ink set, classified in class 106, subclass 31.33.

IV. Claims 23-36, 39, and 50-51, drawn to an ink set, classified in class428, subclass 195.

The inventions are distinct, each from the other because of the following reasons:

The inventions of an image forming method (I), ink set (II and III), and an ink jet recorded image and a recording article (IV) are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have four different classes and subclasses.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Jean Dudek on March 11, 2002 a provisional election was made with traverse to prosecute the invention of Group IV, claims 23-36, 39, and 50-51. Affirmation of this election must be made by applicant in replying to this Office action.

Claims 1-22, 37-38, and 40-49 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Information Disclosure Statement

The information disclosure statement filed July 11, 2001 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23-36, 39, and 50-51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 23, it is not clear what the letters "CIE" in the formula "CIE-L*a*b*" mean.

In claim 24, the term "having" is not an appropriate transition term that defines the scope of the claim.

In claims 24-25, it is not clear why the step of "material has been/is adsorbed to...fine particles" is included in the product claim since no method is claimed.

In claims 25 and 39, the phrase "characterized in that" is not an appropriate transition term that defines the scope of the claim.

In claim 25, it is not clear why the step of "a constituent...comes into direct contact with" is included in the product claim since no method is claimed.

In claim 25, it is unclear what a "constituent" of a recording medium is.

In claims 26-27 and 51, the phrases "image formed by," "part is formed by aggregates," "part is formed by," "feathering...is formed at," and "colored portion formed on" are method steps and "image formed by" in claim 27 is also an improper transition phrase. It is not clear why these steps are included in the product claim.

The term "partially" in claim 34 is a relative term which renders the claim indefinite. The term "partially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

The term "mainly" in claim 35 is a relative term which renders the claim indefinite. The term "mainly" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 25, 30-33, 36, 39, and 50-51 are rejected under 35 U.S.C. 102(e) as being anticipated by EP 900, 831 A2 (EP '831).

EP '831 shows an ink jet recorded image on a recorded sheet comprising colored image and fine particles which are in contact with the surface of the recording medium wherein the fine particles have a colorant, comprising a dye and solvent component, adsorbed into the fine particles (monomolecular state) (page 5, lines 6-49). EP '831 shows that the diameter of the fine particles is not more than 0.4 micrometers (page 5, lines 18-19). EP '831 further shows that the image comprises various dyes and pigments of different colors such as yellow and cyan (page 7, lines 8-38)

EP '831 shows an ink jet recorded imaged sheet (surface-treated article) comprising a colorant (coloring material and colored portion) comprising a dye and solvent component

(functional substance) and fine particles (claim 1) on the surface (recorded portion). EP '831 shows that a colorant is adsorbed and fixed to the fine particles when it is dispersed in the ink composition (monomolecular state) (page 5, lines 13-29).

EP '831 shows an ink jet recorded image (colored portion) on a recorded sheet comprising colored image and fine particles which are in contact with the surface of the recording medium wherein the fine particles have a colorant, comprising a dye and solvent component, adsorbed into the surfaces of the fine particles (monomolecular state) wherein the colorant and fine particles are penetrated into the recording medium (page 5, lines 6-49).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 900, 831 A2 (EP '831).

EP '831 shows an ink jet recorded image comprising a colorant (coloring material and colored portion) comprising a dye and solvent component (monomolecular state) and fine particles (claim 1). EP '831 shows that the colorant is adsorbed and fixed to the fine particles when it is dispersed in the ink composition (monomolecular state) (page 5, lines 13-29).
EP '831 does not show that the ink jet recorded image satisfies the saturation in CIE-L*a*b* space as in instant claim 23. However, although the material in EP '831 doesn't specifically show this saturation, it would satisfy this saturation as the material has the same components and

is used in the same manner, absent any evidence to the contrary. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make an ink jet recorded image which would satisfy the saturation because it is known to make ink jet recorded images with the same components as in the instant invention.

Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 900, 831 A2 (EP '831).

EP '831 shows an ink jet recorded image comprising a colorant and fine particles which are reactive to the colorant wherein the ink jet recorded image (main image forming part) is formed by fine particle mixture (aggregate) which are adsorbed with colorant. EP '831 does not specifically show that the edge of the image comprises a feathering of ink; however, this would be expected to occur since it is known that colorants spread, to some degree, away from the point of formation on the recording medium.

Though EP '831 shows that the pigment in the ink composition of the colorant is about 0.5 to 25% by weight (page 8, lines 3-4), EP '831 does not specifically show the amount and concentration of the colorant as in instant claim 27. However, such a concentration is a property which can be easily determined by one of ordinary skill in the art. With regard to the limitation of the colorant's concentration, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (e.g. colorant's concentration) fails to render claims patentable in the absence of unexpected results. It would have been obvious to one of ordinary skill in the art at the time the invention was made

to employ the colorant in the same concentration as in the instant invention because the concentrations are merely the result of routine experimentation.

Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 900,831 A2 (EP '831) in view of EP 776,950 A2 (EP '950).

EP '831 is relied upon as above for claims 23-27. EP '831 does not show that the colorant is anionic or cationic as in instant claim 28. EP '950 shows that an anionic dye can be used in the coloring material (claim 3) for use in an image recording. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ an anionic colorant since it is known in the art that such a colorant can be used effectively in image recordings.

EP '831 does not show that the fine particles have a polarity opposite to the colorant as in instant claim 28. EP '950 shows that the liquid composition containing a compound has a first polarity while the coloring material has a second polarity opposite the first polarity (page 6, lines 24-27). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ fine particles and colorants with opposing polarities since it is known in the art to do so in order to cause intramolecular polarization.

EP '831 nor EP '950 do not show the surface potential of the fine particles as in instant claim 29. However, such a value is a property which can be easily determined by one of ordinary skill in the art. With regard to the limitation of the surface potential, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (e.g. surface potential) fails to render claims patentable in the

absence of unexpected results. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use fine particles with the surface potential as in the instant invention because it is known that such a value is optimizable.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 900,831 A2 (EP '831).

EP '831 shows an ink jet recorded image on a recorded sheet comprising a colored image and fine particles which are in contact with the surface (aggregation) of the recording medium wherein the fine particles have a colorant, comprising a dye and solvent component, adsorbed into the fine particles (monomolecular state) (page 5, lines 6-49).

EP '831 does not show that the fine particles contain voids; however, such a partial covering of the recording material is a property which can be easily determined by one of ordinary skill in the art by adjusting the amount and concentration of the fine particles. With regard to the limitation of the voids, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (e.g. presence of voids) fails to render claims patentable in the absence of unexpected results. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ fine particles with voids because the conditions, amounts, concentrations of the fine particles are merely the result of routine experimentation.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 900,831 A2 (EP '831).

EP '831 is relied upon as above for claim 33. EP '831 does not specifically show a first and second region comprising higher or lower concentrations of the fine particles or colorant; however, such a varied amount of fine particles and colorant is a property which can be easily determined by one of ordinary skill in the art by adjusting the amount and concentration of the fine particles and colorant. With regard to the limitation of the amount and concentrations, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (e.g. concentration of particles and colorants) fails to render claims patentable in the absence of unexpected results. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ higher or lower concentrations of fine particles or colorants because the concentrations and amounts of the fine particles or colorants are merely the result of routine experimentation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly T. Nguyen whose telephone number is (703) 308-8176. The examiner can normally be reached on Monday to Friday, except on every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700